

GTCX35-XXXM-R05 Series

TE Circuit Protection 5mm 3Pole GDTs (ceramic gas discharge tubes), are commonly used to help protect sensitive telecom equipment such as communication lines, signal lines and data transmission lines from damage caused by transient surge voltages that typically result from lightning strikes and equipment switching operations.

TE Circuit Protection GDTs offer a high level of surge protection, low capacitance and a broad array of breakover voltage levels, making them suitable for applications such as MDF (Main Distribution Frame) modules, high data-rate telecom applications (e.g. ADSL, VDSL), and surge protection on power lines. Raychem Circuit Protection GDTs can help equipment meet the most stringent regulatory standards.



Benefits:

- Compact, small form factor suitable for efficient assembly
- Helps provide overvoltage fault protection against high energy surges
- Suitable for high-frequency applications

Features:

- 3Pole, 5mm devices
- Broad voltage range from 75V-600V
- Various form factors: surface-mount, leaded, no leads
- Optional fail-short mechanism on some devices
- Low capacitance and insertion loss
- Crowbar overvoltage protection
- UL 497B recognized
- RoHS compliant
- Devices tested per ITU K.12 recommendations
- Non-radioactive materials

Applications:

- Telecommunications
 - MDF modules, xDSL equipment, RF system protection, antenna, base station
- Industrial and consumer electronics, such as
 - Surge protectors
 - Alarm system

GTCX35-XXXM-R05 Series

Device Voltage Ratings and Part Marking

Part Number	DC Sparkover	Impulse Sparkover		DC Holdover Voltage	On-State Voltage
	@100V/s ±20% Tolerance (V)	@100 V μ s (V)	@1000 V μ s (V)	Per ITU K.12 (<150ms) (V)	Nominal (@ 1A) (V)
GTCX35-750M-R05	75	450	550	<52	20
GTCX35-900M-R05	90	450	550	<52	20
GTCX35-141M-R05	140	500	600	<80	20
GTCX35-151M-R05	150	500	600	<80	20
GTCX35-201M-R05	200	600	700	<135	20
GTCX35-231M-R05	230	600	700	<135	20
GTCX35-251M-R05	250	600	700	<135	20
GTCX35-261M-R05	260	700	800	<135	20
GTCX35-301M-R05	300	800	900	<150	20
GTCX35-351M-R05	350	900	1000	<150	20
GTCX35-401M-R05	400	900	1000	<150	20
GTCX35-421M-R05	420	900	1000	<150	20
GTCX35-471M-R05	470	1050	1150	<150	20
GTCX35-501M-R05	500	1100	1200	<150	20
GTCX35-551M-R05	550	1300	1400	<150	20
GTCX35-601M-R05	600	1300	1400	<150	20

Device Surge Rating, Capacitance, Insulation Resistance, UL

Part Number	Impulse Discharge Current	Impulse Life	AC Discharge Current (1sec duration; 10 hits)	Capacitance	Insulation Resistance	UL Rating
	8x20 μ s 10 hits	10x1000 μ s 300 hits	@50 Hz	@1Mhz	@100V*	UL497B #E179610
GTCx35-xxxM-R05	5kA	100A	5Arms	<1pF	10,000 (M Ω)	All Devices

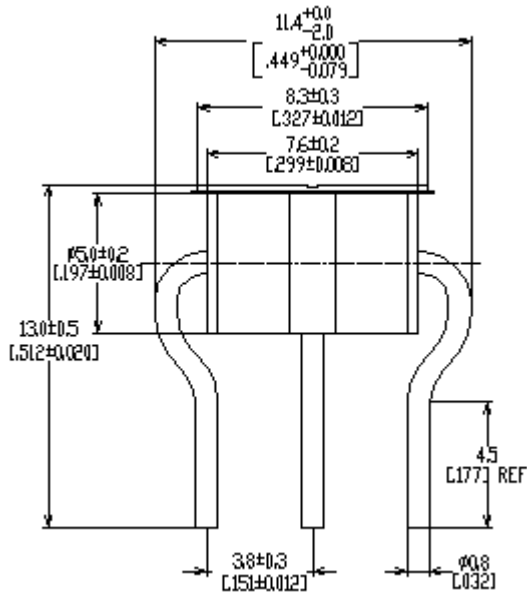
* Devices <=150V measured @ 50V
 Devices >= 500V measured @ 250V

GTCX35-XXXM-R05 Series

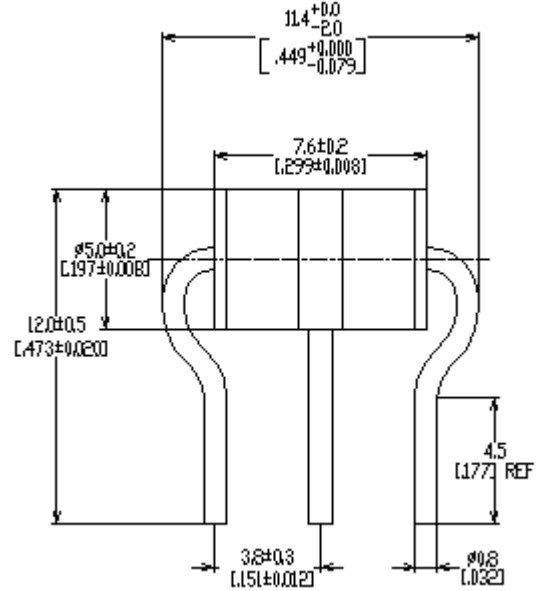
Product Dimensions

DIMENSIONS = MILLIMETERS [INCHES]

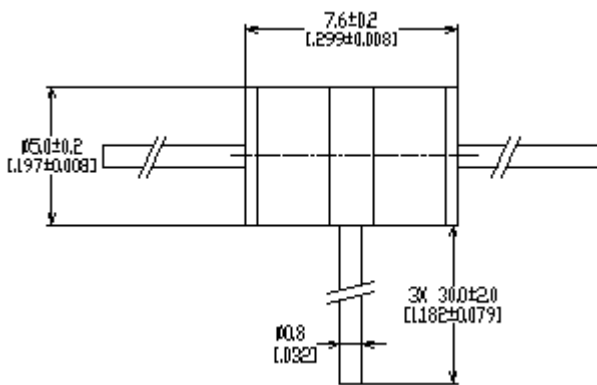
Axial Leaded-XXXM-R05-FT)



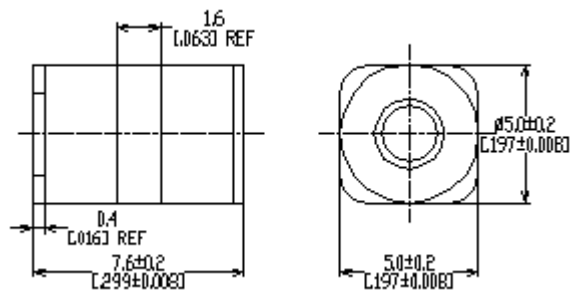
Axial Leaded (GTCA35-XXXM-R05)



“T” Leaded (GTCT35-XXXM-R05)

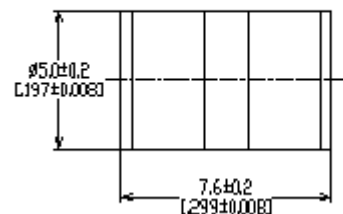


Surface-mount (GTCS35-XXXM-R05)



No Leads with -FT (GTCN)

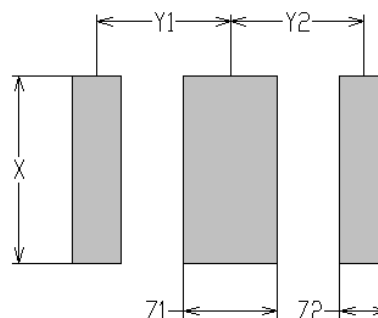
No Leads (GTCN35XXXM-R05)



GTCX35-XXXM-R05 Series

Pad Layout – Surface-mount Devices

	X	Y1	Y2	Z1	Z2
	NOM	NOM	NOM	NOM	NOM
mm:	6.0	3.6	3.6	2.5	1.3
in*:	(0.236)	(0.142)	(0.142)	(0.098)	(0.051)



General Characteristics

No Radioactive Material

Storage Temperature: -40°C to +90°C

Operating Temperature: -40°C to +90°C

Body: Nickel Plated

Leads: Surface-mount, "T" and Axial Devices: Tin Plated

Devices with no leads: Nickel Plated

Soldering Notes: Devices with no leads: non-solderable; suitable for insertion into a magazine clip

Materials Information

RoHS Compliant

ELV Compliant

Directive 2002/95/EC
Compliant

Directive 2000/53/EC
Compliant

Packaging Information

Part Description

No Leaded: GTCN35-XXXM-R05

With Leads: GTCA35-XXXM-R05/GTCT35-XXXM-R05

Surface-mount (T&R): GTCS35-XXXM-R05-2

Tray / Reel

100 pcs (Tray)

100 pcs (Tray)

1,000 pcs (Reel)

Standard Package

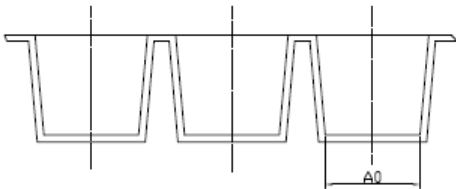
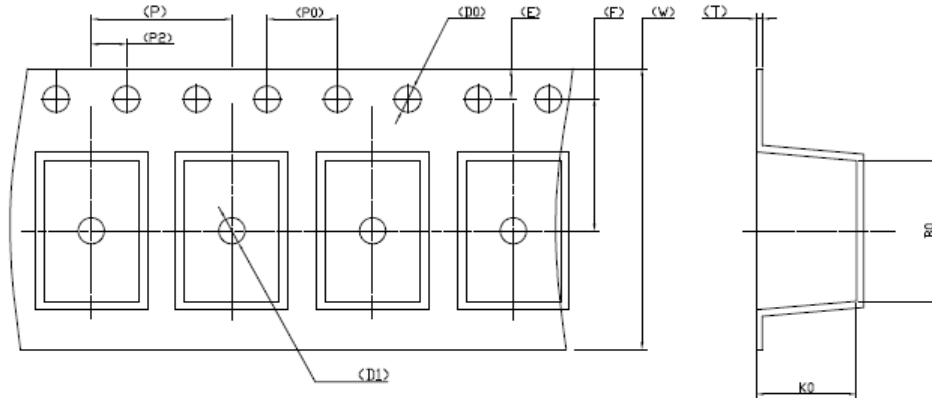
2,500 pcs

1,000 pcs

8,000 pcs

GTCX35-XXXM-R05 Series

Tape and Reel Specification



W	16.00±0.30	P	8.00±0.10	A0	5.40±0.10	B0	8.00±0.10
		P0	4.00±0.10				
E	1.75±0.10	P2	2.00±0.10				
F	7.50±0.10	D0	∅1.50±0.10	K0	5.70±0.10		
T	0.50±0.05	D1	∅1.50 MIN	K1			COLOR : B

Part Numbering System

Example Part Number: GTCX35-351M-R05-FT

- GT = Gas Tube
- C = Ceramic
- X = Lead Configuration: **N**= No leads; **A**= Axial Leads; **S**= Surface-mount; **T**= T Configuration Leads
- 3 = 3 Electrode device
- 5 = 5mm Diameter
- 351 = DC Spark Over Voltage of 350V (at 100V/s)
- M = Tolerance of 20% on DC Spark Over Voltage
- R = Product Family Designator
- 05 = Surge rating: 8x20µs 5kA 10 times
- FT = With Fail-Short mechanism
- 2 = Tape and Reel

GTCX35-XXXM-R05 Series

Part Marking Reference

Example Part Marking: **XX 35 R05 GN**

XX =	Manufacturer's Mark
35 =	Voltage Designator (35 = 350V)
R05 =	Product Family Designator + Surge Current 5kA (8x20µs 10 hits)
GN =	Year and Week of Manufacture



308 Constitution Drive
Menlo Park, CA USA
www.circuitprotection.com

Tel (800) 227-7040
(650) 361-6900
Fax (650) 361-2508

www.circuitprotection.com
www.circuitprotection.com.hk (Chinese)
www.circuitprotection.jp (Japanese)

TE Connectivity, TE Connectivity (logo), and TE (logo) are trademarks.

Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Tyco Electronics Corporation and/or its Affiliates in the TE Connectivity Ltd. family of companies ("TE") reserves the right to change or update, without notice, any information contained in this publication; to change, without notice, the design, construction, processing, or specification of any product; and to discontinue or limit production or distribution of any product. This publication supersedes and replaces all information previously supplied. Without expressed or written consent by an officer of TE, TE does not authorize the use of any of its products as components in nuclear facility applications, aerospace, or in critical life support devices or systems. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. TE's only obligations are those in the TE Standard Terms and Conditions of Sale and in no case will TE be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of its products.